

The Report of the:

Governor's Arizona Forest Health Oversight Council



Executive Order 2003-16

**State of Arizona Governor
Janet Napolitano**

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ACKNOWLEDGEMENTS

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Governor's Forest Health Oversight Council **2005 Report and Recommendations**

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Introduction

Arizona forests are dominated by ponderosa pine. This forest covers millions of acres in a swath extending along the Mogollon Rim and the White Mountains from northwest of Flagstaff to the New Mexico border southeast of Springerville.¹ Most of this area lies within the Coconino and Apache-Sitgreaves National Forests and the White Mountain Apache Indian Reservation. Extensive ponderosa pine forests are also found on the Kaibab National Forest on both sides of the Grand Canyon, in the Chuska and Lukachukai Mountains of the Navajo Indian Reservation, the Prescott National Forest and on the "sky island" mountains of southeastern Arizona such as the Santa Catalinas, the Chiricahuas, and Mount Graham in the Coronado National Forest.

The pine forests are vital to Arizona and its citizens. They are home to tens of thousands of residents in mountain cities and towns such as Flagstaff, Prescott, Payson, Show Low, Heber, Overgaard, Pinetop, Lakeside, White River, McNary, Eagar, Springerville, and numerous smaller communities. Pine forests constitute large and critical portions of the watersheds of the Salt, Verde, and Gila Rivers, which supply water for the people, farms, and industries of central and southern Arizona, including the Phoenix metropolitan area. Pine forests provide essential habitat for numerous species of wildlife, including deer, elk, bear, and wild turkey, as well as game birds, birds of prey, and small mammals. Arizona's forests can also provide wood for utilization. Finally, they are an enormous recreational resource, providing camping, hunting, fishing, hiking, and bicycling opportunities, as well as relief from the desert heat, for hundreds of thousands of visitors, both from in-state and out-of-state. The income from these visitors is critical to the economy of much of rural Arizona.

The Condition of Arizona's Forests

There is widespread agreement among forest scientists on a number of general points.² In most of Arizona's pine forests, the number of trees is now substantially greater and the diversity and abundance of grasses, wildflowers, and shrubs are substantially less than in the nineteenth century. The increase in tree density is due to relatively young trees that have irrupted since widespread Euro-American settlement of the forests began. The presence of large, mature trees (sometimes called "old growth") is low.

The high density of young ponderosa pine trees has created a risk of large, high-intensity fires such as the Rodeo-Chediski. This unnatural condition of the forest has also contributed to an unprecedented bark beetle epidemic, and associated tree mortality. Finally, climatic information indicates that Arizona is entering a scientifically predictable period of extended drought possibly aggravated by a rise in global

¹ G.A. Pearson. Management of Ponderosa Pine in the Southwest (1950)

² See, e.g., W. Wallace Covington and Margaret M. Moore, Southwestern Ponderosa Forest Structure: Changes Since Euro-American Settlement, 92 *Journal of Forestry* 39 (1994); M.H. Madany and N.E. West, Livestock Grazing B Fire Regime Interactions Within Montane Forests of Zion National Park, Utah, 64 *Ecology* 661 (1983); M. Savage and T.W. Swetnam, Early 19th Century Fire Decline Following Sheep Pasturing in a Navajo Ponderosa Pine Forest, 71 *Ecology* 2374 (1990); G. Thomas Zimmerman and L.F. Neuenschwander. Livestock Grazing Influences on Community Structure, Fire Intensity and Fire Frequency in the Douglas-fir/ Ninebark Habitat Type, 37 *Journal of Range Management* 104 (1984).

temperatures. The convergence of these factors leaves Arizona's forests and communities vulnerable to unnatural, catastrophic fire.

The Rodeo-Chediski fire that burned over 400,000 acres of Arizona's forests was one of the greatest disasters in the history of our state. Hundreds of families lost their homes and property. Thousands more were forced to evacuate their communities and lived with the fear that their homes too, would be lost. The soil erosion in the aftermath of the fire continues to impact the watersheds serving Phoenix and downstream fisheries.

Fortunately, there is good understanding and support among Arizona citizens for taking action to restore forests. A fall 2003 statewide telephone poll conducted by the Social Research Lab at Northern Arizona University of 610 Arizona adult residents found that 52% of those questioned recognized that Arizona forests are unhealthy. Among those polled 76% expressed support for using controlled burns to reduce hazardous fuels and 80% supported the need for mechanical thinning to reduce fuel loads³.

In addition, communities-at-risk⁴ for wildfire have mobilized and prepared Community Wildfire Protection Plans (CWPP), a planning action required under the Healthy Forest Restoration Act of 2003 to position communities to receive priority for federal hazardous fuel reduction dollars. Arizona is a leader in the number of plans completed.

The problems facing our forests are solvable. But to do so requires the support, collaboration and action of Arizona decision-makers, citizens and the land management agencies. The recommendations developed in this report are important steps for achieving this goal.

³ Solop, Fred, 2003. Grand Canyon States Poll. Released December 2003.

⁴ <http://www.azstatefire.org/Risk/Risk.htm>

Executive Summary

Wild fires of unprecedented size, severity and frequency have captured our attention. These unnatural wild fires have devastated forests in some areas, diminished watershed integrity and left citizens in forested communities feeling vulnerable.

Since the mid-1990s new policies and funding have been focused on implementing restoration and hazardous fuel reduction treatments in and around communities. However, there is still much work to be done. The infrastructure to remove and utilize the millions of tons of wood removed from forests is inadequate—causing a literal log jam in the process of removing excess wood. It is estimated that treatments to protect communities will take 15 years to complete in Arizona, leaving few resources to solve the challenges posed by forest degradation at the landscape scale. Finally, debate continues on the type of treatments appropriate to achieve forest restoration and the future role of fire in forest management.

The problem of unnatural wildfire is solvable. This document outlines **31** recommendations developed by the Governor's Forest Health Oversight Council. They are the result of two years of monthly meetings, presentations and investigations into the causes and solutions to degraded forest health. The Council knows that some of these recommendations are controversial—such as urging the legislature to grant counties the authority to manage lot splits. However, the Council agreed that it was our responsibility to recommend what we see as the most important steps to protect the health and safety of the people, forests, and communities of Arizona. To this end, we would put the responsibility back on those that oppose the recommendations to offer alternatives that are equally effective at protecting public safety and Arizona's forests.

- **There are six recommendations directed at the Arizona Legislature.** These include: revising state statutes to provide optional authority to local government to enforce fire codes and require land owners to establish defensible space; granting authority to counties to manage lot splits; urging adoption of tax incentives to motivate wood utilization; revisions to legislation passed in 2004 to improve the effectiveness of the state forester; and support for increasing the base budget of the state forester to increase the pace of forest treatments.
- **There are eleven recommendations for the Governor and Executive Branch.** These include: urging the State Fire Marshall to adopt Fire Codes that reflect current standards within two years; expanding the State Fire Safety Committee to include rural and private interests; directives that consolidate fire and forest restoration responsibilities under the State Forester and add new responsibilities; increasing the budget of the State Forester; analyzing new and existing state buildings for the potential to use wood heat; and urging continued work with the Western Governors' Associate to harmonize the management and treatment of utility corridors across state and federal land.
- **There is one recommendation to the Corporation Commission.** New rules should increase the percentage of alternative fuels in the Environmental

Portfolio Standards (EPS) to 10%, increase the surcharge to customers for alternative fuel development and eliminate the EPS expiration date.

- **There are six recommendations to Congress.** These include: guaranteeing annual funding for the innovative stewardship contract on the Apache-Sitgreaves National Forest; change the authorities under the Federal Emergency Management Agency to allow funding for preventative treatments to avoid expensive emergencies; expanding the Collaborative Forest Restoration Act in New Mexico to Arizona; Ensure full funding for hazardous fuel reduction treatments in Arizona; Funding for federal programs that assist private landowners and local government treat acres; Ensuring that the Forest Legacy Program is implemented in Arizona.
- **There are three recommendations for Communities.** These include: Urging the preparation of Community Wildfire Protection Plans; Urging Homeowner Associations to review Conditions, Covenants and Restrictions to ensure they maximize activities that promote home protection and safety from fire; and, requesting that local government aggressively promote hazardous fuels reduction.
- **There are two recommendations for Citizens and the Private Sector.** Citizens are asked to accept responsibility for treating their own property. The real estate and homebuilding industry are urged to develop a disclosure statement for home sales that indicate actions that have been taken to create defensible space.
- **There are two recommendations for Future Study.** These urge analysis of air-quality standards for biomass (currently an unclassified emission source) and identifying a funding mechanism to increase the budget of the State Forester.

We have never known more or been more motivated to restore forests and reduce the threat of unnatural fire. The wet winter of 2005 provides the opportunity for all stakeholders to treat forests and property. There are solutions and the time to act is now.

2004 Summary of Legislative Action

The 2004 Arizona Legislature considered two philosophically different bills pertaining to forest health. Following numerous hearings and negotiations, compromise legislation passed with the following provisions:

- tax incentives to stimulate small wood utilization;
- increased responsibility for the State Forester, including a directive to intervene in federal appeals and litigation;
- establishment of a new citizen's committee to recommend changes to the state fire code
- granted authority to counties to adopt a wildland/urban interface fire code.

Unfortunately, many of the legislative changes endorsed in the 2004 Council Recommendations were not adopted.

During 2004 the Department of Commerce, Industries of the Future and other stakeholders determined that the tax incentive program passed in 2004 did not achieve the desired policy goal of stimulating business development. Subsequent analysis shows that targeting state sales tax relief for transportation and property tax relief for business development may motivate private investment. These changes are incorporated in HB2275 and HB22276 and are presently under consideration by the 2005 legislature. The Council encourages the expeditious passage of this legislation and anticipates developing legislation to advance new recommendations included in this report.

Recommendations in 2005

A) Recommendations to the Legislature

- 1a. **Revise state statutes to provide *optional* authority to fire districts, cities, towns, and counties to enforce the IUWIC INTERNATIONAL URBAN WILDLAND INTERFACE CODE (IUWIC) code or an equally effective code immediately, and to promulgate higher standards where local conditions require it. Authority should include updating the code as new information develops. *Repeat from 2004***

Rationale: The 2004 legislation granted authority to these entities to adopt the code but without clear authority for enforcement. Where counties, towns, cities and fire districts want to adopt and enforce the IUWIC code they should have the authority to do so. This action supports local control.

- 2a. **Provide counties, towns, cities and fire districts the authority to require landowners to establish defensible space by the removal of vegetation, to remove hazardous fuels, and to take other reasonable preventative actions where necessary to reduce the hazard of wildfire and/or facilitate the control of wildfire on their property. Provide authority to fire districts, cities, towns, and counties to develop and implement an administrative review process to enforce hazardous fuels reduction. *Combines two recommendations from 2004***

Rationale: Uniform fire codes focus primarily on new construction, and are enforced primarily through denial of required permits. To more effectively prevent and control wildfires in the wildland-urban interface the state fire marshal, counties, and fire districts must have authority to require landowners to undertake certain fire prevention measures, such as the removal of hazardous fuels, including dead trees and brush, from existing developments as well as from newly constructed developments. Additional authority is also needed to seek reimbursement from the landowner if the county, fire district, town or city removes hazardous fuels because a landowner fails or refuses to take action to correct the hazardous condition.

Although in extreme cases cities and counties might be able to address such problems using their authorities to abate nuisances and their general authorities to enforce ordinances, such proceedings are time consuming, costly, and generally require court proceedings that depend upon county attorneys' willingness to make such action a priority. Even when a judgment is obtained it may not be enforced, and in some cases its relative priority is so junior that the lien would not be paid even if foreclosed. Although the state fire marshal has authority to issue cease and desist orders and to seek injunctive relief in court to enforce the state fire code, that is a cumbersome and expensive process that requires the assistance of attorneys. The current administrative process is only available for review of orders of state agencies. This language would allow counties, towns, cities and fire

districts to initiate an administrative process to facilitate the enforcement of regulations that would reduce hazardous fuels and establish a defensible space on properties in the urban-wildland interface.

3a. Expand county planning and zoning authority to enable better management of growth and development in communities vulnerable to unnatural catastrophic fire by managing lot splits, access roads, and internal streets and permitting transfer of development rights. *Repeat of 2004*

Rationale: The counties understand the need to anticipate wildfires and to protect public and fire fighter safety. To be effective the counties need the authority to plan, zone, and enforce the minimum standards adopted in the state fire code and wildland-urban interface fire code. This authority also permits the counties to take actions that minimize the cost of delivering fire protection services.

For example, one of the most difficult issues related to firefighting in rural areas is inadequate access to property, leading to a slow response time during emergencies. In a 2001 survey of fire districts, virtually every fire district expressed concerns about inadequate roads, impassable roads, roads that had been blocked or fenced by property owners, lack of turnarounds, roads that cannot withstand the weight of fire apparatus, and lack of water for firefighting. The land division (lot splitting) process in counties that allows any property owner to split his or her property five ways has led to unplanned and unregulated sprawl outside of towns and cities. The inability to regulate basic public health and safety needs has led to infrastructure (roads, drainage, water, and sewer) and service (police, fire, and rescue) challenges for counties, fire districts, and other emergency providers.

While language added by Growing Smarter Plus in 2000 helped, it did not provide enough authority for counties to adequately address lot split and access issues.

4a. Pass legislation to provide tax incentives to support small wood utilization. *New*

Rationale: During 2004 the Department of Commerce, Industries of the Future and other stakeholders determined that the tax incentive program passed in 2004 did not achieve the desired policy goal of stimulating business development. Subsequent analysis shows that targeting state tax relief for transportation and property tax relief for business development may motivate private investment.

5a. Delete language from 2004 legislation that distracts the State Forester from the primary responsibilities of forest management and wildland fire suppression. *New*

Rationale: The State Forester is dedicated to solving land management challenges associated with unnatural wildfire. The State Land Department lacks the resources and legal expertise to participate in court actions and in

fact that is the job of the State Attorney General. In addition, the State Forester has no authority with regard to appeals on federal land.

- 6a. The legislature should support increases in the base budget of the office of the State Forester to support additional responsibilities. *New***

Rationale: The legislature expanded the duties of the State Forester without expanding the budget. Increased funding is required to adequately support all the statutory duties of the State Forester.

B) Recommendations to the Governor/Executive Branch

- 1b. Pursuant to ARS 41-2146 the State of Arizona Fire Marshall should adopt, enforce, and maintain a current Fire Code through the State Fire Safety Committee to establish minimum standards for safeguarding life and property from fire and fire hazards. (the current code was adopted code is circa 1988) *Repeat of 2004***
- 2b. Pursuant to ARS 41-2146 the State of Arizona Fire Marshall should adopt and maintain a current Wildland Urban Interface Fire Code through the State Fire Safety Committee. The minimum standard shall address the categories found in the INTERNATIONAL URBAN WILDLAND INTERFACE CODE (IUWIC) safeguarding life and property in areas at risk from wildfire. Enforcement of the code should be delegated to counties, towns, cities and fire districts. *Repeat of 2004***
- 3b. The State of Arizona Fire Marshall shall adopt the new codes as soon as possible or within two years of enactment of this enabling legislation. *Repeat 2004 except the length of time has been increased from one to two years***

Rationale for B 1-3b: Arizona's fire code is 15 years old and does not reflect new knowledge and common sense requirements needed to protect homes against wildland fires. In addition, Arizona does not have a statewide minimum Wildland-Urban Interface Code. The risk of property loss, and injury to civilian and firefighters can be reduced or avoided if homeowners apply practical, research-supported actions for creating defensible space. By updating the Arizona fire code, and adopting a Wildland-Urban Interface code property owners will be responsible, active participants in efforts to protect themselves, their property, and the lives of firefighters. This action will reduce the eventual recovery costs to state and federal taxpayers and reduce the possibility of increasing insurance premiums.

- 4b. Expand the composition of the State Fire Safety Committee to include broader representation of stakeholders including the counties, towns, cities, fire districts, the insurance industry, and the State Forester. *Repeat of 2004***

Rationale: The 2004 legislation created a new State Wildland-Urban Fire Safety Committee to develop recommendations for minimum wildland urban interface standards. This committee has not met.

The State *already* has a Fire Safety Committee to review and make recommendations for a statewide minimum fire code. However, the composition of the existing committee is largely urban and lacks expertise on rural and wildland-urban interface fire issues.

5b. Add a state education coordinator to the Office of the State Forester.

New

6b. The State Forester in conjunction with the Governor's Forest Health Oversight Council, Forest Health Advisory Council, and with input from participants of the 3rd Annual Governors Forest Health and Safety Conference should evaluate the status of forest health and develop a strategic plan for the restoration of forest health. In addition, the Forest Health Advisory Committee should develop treatment protocols that simultaneously ensure effective wildfire abatement and forest restoration. *New*

7b. Increase the base budget of the office of the State Forester to support additional responsibilities. *New*

Rationale for B 5b-8b: The Deputy State Forester and the State Land Department are responsible for protecting over 22 million acres of state, nonfederal, and private land from fire.

Several responsibilities for implementing the actions necessary to reduce the risk of wildfire remain in other state agencies. In 2004 the Governor signed Executive Order 2004-21, State Land Department, Forestry Division to begin the process of consolidating all fire and forest management activities, including the administration of federal and state grant programs, under the State Forester. This will improve efficiency and ensure coordination and coherent delivery of services.

The public must understand and be motivated to take action to reduce the risk of fire to private property and homes. Citizen involvement is a critical element of a comprehensive strategy to reduce the risk of fires to communities. Effective outreach employs a myriad of communication tools and multiple media approaches. Success requires full time dedication to this effort.

8b. The State should survey state funded facilities to determine the feasibility of retrofitting these facilities for wood heat. *New*

9b. If the results of the analysis from the state survey indicate it is feasible, the Governor, by executive order, should require all new or renovated state facilities, to consider using commercially based wood pellets or wood chips for heating purposes (schools, universities, etc.). *Repeat of 2004*

Rationale for 8b and 9b: Heating technology using wood pellets is well established and commercially viable. In addition, small business capacity already exists in the state to produce pellets and can be expanded rapidly into new communities in response to new markets. The manufacturing of pellets and small wood utilization for heat have many benefits greater than those of other wood products including: pellet production must be located close to its markets leading to appropriate-scale small enterprise development; both the manufacturing of pellets and the production of heat from wood are clean approaches to heat production when the pollutants of different sources are compared; and, it creates a market for the utilization of small wood.

On February 11, 2005, Governor Napolitano issued Executive Order 2005-5, Implementing Renewable Energy and Energy Efficiency in New State Buildings. EO 2005-5 directs that all new state funded buildings shall be designed and constructed to derive at least ten percent of their energy from a renewable source including thermal energy from biomass fuels. In addition, the State Land Department secured a grant from the Western Governors Association to conduct an evaluation of this technology, which will provide greater insights into the feasibility of retrofitting existing buildings to utilize thermal energy from biomass as they are updated and remodeled.

- 10b. The Governor, through the WGA, and in collaboration with the utility industries should promote expedited treatments using best management practices to reduce the threat of wildfire to regional utility corridors. *Repeat***

Rationale: Utility corridors cross wildlands of different jurisdictions throughout the Intermountain West. Power delivery is continually threatened by wildfire and falling trees, a result of post-fire and beetle mortality. Providing uninterrupted power requires adequate treatment of utility corridors. Obtaining the permission to maintain this zone of protection and developing the maintenance schedule and plan to implement present challenges across multiple jurisdictions. Consequently, corridor maintenance is inadequate in some places to ensure continued power delivery during or following a fire or severe weather.

Governor Napolitano incorporated this issue in the Western Governors' Association annual working plan for 2004-05. The state and WGA should continue to work with the federal agencies and state utilities to address this important problem.

- 11b. Continue to consolidate forest health and wildfire activities under the State Forester. These duties include: coordinate state education functions such as Firewise training and promotion; coordinate fire and restoration data management; coordinate management activities with other agencies to ensure focus on and completion of highest priority projects; help communities coordinate completion of Community Wildfire Protection Plans; and prepare a strategic plan that includes a discussion of the resources and strategies required to**

effectively restore Arizona's forests. *This consolidates several recommendations made in 2004*

C) Recommendation to the Corporation Commission

- 1c. The Corporation Commission should increase the Environmental Portfolio Standard (EPS) percentage for alternative fuels to 10%; eliminate the EPS expiration date and increase the surcharge to customers to support alternative fuels development (See Appendix A-Letters from Council). *New*

Rationale: Energy production from biomass is a promising technology that can help build energy independence while solving one of the biggest barriers to forest restoration—what to do with restoration by-products. The Corporation Commission recently recommended increasing the EPS to five percent with an increase over time; however, the recommendation did not specify biomass as an acceptable renewable energy resource to achieve the new standard. The Council sent a letter to the Arizona Corporation Commission on February 17, 2005 highlighting this oversight and urging inclusion of biomass.

D) Recommendations to Congress

- 1d. Congress should guarantee funding for the White Mountains stewardship contract in the Apache-Sitgreaves National Forest for the duration of the agreement. *New*

Rationale: Stewardship contracting stimulates private investment in harvesting and marketing by providing certainty that small diameter wood will be available for an extended period of time (giving investors confidence that they will recover their costs). However, harvesting of small diameter wood under a stewardship contract still requires federal subsidies. A lack of guaranteed funding over the period of the contract undermines investor confidence and contributes to uncertainty. A commitment is needed that federal funding will be available throughout the duration of the Apache-Sitgreaves contract.

- 2d. The Federal Emergency Management Agency (FEMA) should be authorized to provide funding to take science-based preventative action to reduce hazardous fuels around communities at risk in Arizona. This action was taken in 2003 to benefit California. *Repeat of 2004*

Rationale: In a prescient action in early 2003 the State requested an Emergency Declaration and federal funding from FEMA to remove hazardous fuels created by the unnatural bark beetle epidemic *before* a catastrophic fire could erupt. This request was denied, appealed, and denied a second time on the grounds that FEMA does not fund preventative treatments. However, a

similar request by the state of California was approved. Presently, many Arizona communities are surrounded by dead and dying trees that will pose a significant risk during each fire season.

Congress should authorize funding for emergency action either through FEMA or some other agency to address this problem quickly.

3d. Expand the Collaborative Forest Restoration Act developed for New Mexico to include Arizona. *Repeat of 2004*

Rationale: This program provides \$5 million in cost-share grants to stakeholders and communities for hazardous fuel reduction and restoration projects. It has proven to be an excellent example of community involvement and collaboration. In addition, it has led to economic development in rural communities and active development of multi-party monitoring protocols. The projects may be entirely on, or on any combination of federal, tribal, State, county, or municipal forestlands. The program is very successful.

4d. Congress should fully fund \$30 million in forest restoration and hazardous fuel reduction in treatments in Arizona National Forests for FY'06. *New*

Rationale: The six national forests in Arizona have the capacity to accomplish \$30 million of fuel reduction and forest restoration projects in FY'06. These projects include thinning the forest, providing fuel breaks in the Wildland-Urban Interface and prescribed burning to reduce forest and shrub fuel loads. In addition, Arizona's forested communities are rapidly preparing Community Wildfire Protection Plans as a condition to be prioritized for federal hazardous fuel reduction dollars.

A 2003 Yale University study states that the full cost of damage resulting from the Cerro Grande fire in 2000 is \$26,000/acre. That figure includes lost property, rehabilitation, lost work productivity, and many other costs. A 2003 study by Northern Arizona University comparing the cost of restoration to no action (and a subsequent unnatural fire) demonstrates that it is cost-effective to spend up to \$505/acre to restore forests to prevent catastrophic fire and avoid associated fire suppression costs. This value is a conservative estimate based on a comparison of the cost of restoration versus the cost of suppression, emergency rehabilitation, and lost timber production. All recent studies demonstrate that it is fiscally responsible to treat forests and avoid the expensive economic and environmental damage caused by catastrophic fire.

5d. Congress should fully fund the State and Private Forestry programs that support rural communities. Funding should be included for programs such as the Forest Stewardship Program, the Economic Action Program and the State Rural Assistance Grants. *Repeat of 2004*

Rationale: Programs that support community activities to treat forests provide multiple benefits including: local buy-in and collaboration, work force development and leveraged funding using state dollars. Federal programs that assist communities provide necessary incentives to motivate community action.

These programs are cost-effective and are sometimes the only source of funding for essential planning and treatment support. Congress has expressed a commitment to community collaboration and therefore should continue to fund these programs to meet community need.

6d. Congress should ensure that the Forest Service implements the Forest Legacy Program in Arizona.

Rationale: Arizona is fortunate to have the largest contiguous expanse of ponderosa pine forest in the United States. In addition, it is home to biologically rich and rare riparian forests in the semi-desert grasslands and Sonoran desert ecosystems. According to a study by the Morrison Institute, the population of Arizona has more than tripled since 1960 and is growing three times faster than the nation as a whole. Unfortunately, there is spiraling demand for development in the forested wildland-urban interface and virtually any place there are trees and water. The Forest Legacy Program (FLP) is an important conservation tool that is critically needed to protect environmentally significant, private forest lands that are threatened by conversion to non-forest uses. Other programs in the State and Private Forestry Section provide important resources to communities and firefighters to restore forests and protect communities.

E) Recommendations to Municipalities and Communities

1e. All communities identified as “at risk” by the federal or state government should prepare Community Wildfire Protection Plans (CWPP). *New*

Rationale: Arizona has identified 158 communities at risk to unnatural, catastrophic fire⁵. The Healthy Forest Restoration Act prioritizes receipt of federal funding to communities that prepare a CWPP. Arizona communities have responded with exceptionally high participation and creativity to complete their plans. Those communities that do not have plans should prepare them as soon as possible.

2e. Homeowner Associations in communities at risk for wildfire should review their Conditions, Covenants & Restrictions (CC&R's) to ensure they maximize activities that promote home and property protection from wildfire. *New*

Rationale: Many CC&R's include provisions that would prevent homeowners from taking action to create defensible space around their homes. Rather than prevention, Homeowners Associations should use CC&R's and HOA communications programs to encourage and/or promote the importance of property protection to homeowners and the community. Firewise treatments

⁵ <http://www.azstatefire.org/Risk/Risk.htm>

and fire resistant building materials in new construction is a prudent alternative to catastrophic fire or retroactive application of fire risk reduction approaches.

3e. Fire Districts, cities, towns and counties should aggressively promote hazardous fuel reduction on lands within their jurisdiction. *New*

Rationale: Municipalities and counties should use their authority to promote hazardous fuel reduction on private property and lands under their control. Fire does not adhere to ownership boundaries. Breaking up fuel continuity across neighborhoods will improve the effectiveness of suppression strategies.

F) Recommendations to the Private Sector and Citizens

1f. In areas vulnerable to unnatural, catastrophic wildfire, a disclosure statement should be developed stating that the property is within a zone of significant fire hazard. It should also include a list of the actions that have been or could be taken to reduce the hazard of fire to property and structures. The Council recommends working through a collaborative process that includes representatives from the real estate and homebuilding industry to develop a disclosure process. *Repeat of 2004*

Rationale: Disclosure statements may be a good tool for motivating private action to reduce hazardous fuels. However, the Council feels realtors and members of the insurance industry should lead this effort.

2f. Private property owners should implement actions to create defensible space around their homes. *Repeat of 2004*

Rationale: Private landowners, through their own actions, play a large role in protecting their property. This can be accomplished by voluntary adoption of Firewise building standards by private landowners. Research shows that there are many actions that can be taken to create “defensible space” around homes. Effective fire hazard reduction will take the combined efforts of government and citizens. Everyone must do their part. Citizens can receive information and assistance from their local fire district, by visiting the <http://www.firewise.org/usa/> website, and contacting their local county extension agent.

G) Future Study

1g. The Forest Health Oversight Council should review and recommend changes for the air-quality standards for energy produced by biomass. Presently this is an unclassified emission source. *New*

Rationale: Before huge investment in biomass, gas emission standards should be considered to ensure minimal contributions of air pollutants. This is

a complicated scientific and policy issue that deserves further study before the Council can prepare a recommendation.

2g. Determine funding or fee mechanisms to increase public resources for forest restoration and hazardous fuels reduction. *New*

Rationale: In 2004 the legislature increased the responsibilities of the State Forester while failing to provide additional financial resources. There is a need to increase financial and human resources to meet the challenges of treating unhealthy forests.

CONCLUSION

This report articulates 31 recommendations that will contribute to improving forest health and reducing the risk of unnatural fire in Arizona's forests and at-risk forest communities. They are directed at six different groups of decisions-makers and illustrate that cooperation and collaboration will be critical for Arizona to successfully meet the challenge of restoring forests and protecting communities. Some of the recommendations are costly while others, like those directed at private landowners to encourage treating private property, can be accomplished through hard work. All investments, whether they are monetary or sweat equity will yield overwhelming dividends for forest health, watersheds and water supply, recreation, wildlife, and the quality of life for current and future citizens of Arizona.

The Council recognizes that our work is not done. More analysis and synthesis is needed to develop recommendations that will:

- o Identify a source of revenue to support the work of the State Forester;
- o Identify long-term strategies to restore state forests; and,
- o Consider recommendations for air quality standards for biomass energy.

The Council is grateful for the privilege to advise the Governor, Legislature, and other stakeholders on the actions needed to protect forest ecosystem health and reduce the hazard of fire to at-risk communities.

Appendix A

Letter to Arizona Corporation Commission

October 15, 2004

Arizona Corporation Commission,

On behalf of Janet Napolitano's Forest Health Oversight Council we are writing to express the views of the Council regarding revisions to the Arizona Environmental Portfolio Standard (EPS).

The Council was established by the Governor as a means to provide citizens an opportunity to help identify solutions to the problems of unnatural wildfire and degraded forest health. The Council has worked diligently for 18 months to develop an integrated set of recommendations designed to help solve some of the ecological, economic and social issues confronting our forests.

One of the biggest barriers to achieving forest restoration is the lack of markets for small diameter wood. Energy generation using forest biomass can simultaneously serve two purposes—create a renewable, clean energy supply and create a market for thinned material. For these reasons we support modifications to the EPS that will lead to the use of biomass.

The Council recommends the following:

1. **Increase the surcharge to support alternative energy development.** Members of the Corporation Commission have stated publicly that doubling or tripling the surcharge will be necessary to make alternatives competitive. We recommend that at a minimum the surcharge be doubled.
2. **Increase the portfolio percentage to 10%.** Interruptions in energy production nationally over the last several years, underscore the need for new and innovative methods for generating and distributing energy. Elevating the portfolio percentage is appropriate in light of the seriousness of our current energy situation and underscores the importance of developing new approaches to energy production.
3. **Eliminate the EPS expiration date.** The expiration date for the EPS should be eliminated. This is necessary to stimulate investment and ensure investment recapture.
4. **Include credit for thermal energy as well as electrical energy.** A desire to replace fossil fuels with renewable fuels to extend the life of fossil fuels can also be accomplished by heating and/or cooling with biomass fuels. Thermal energy from biomass is also more economical and efficient when comparing biomass energy with conventional fossil fuel energy.

Changes to the EPS that accelerate biomass development will help solve the small wood utilization challenge interrupting the reduction of hazardous fuels in our forests. They may also stimulate the development of a sustainable, reliable source of energy and jobs.

If you need further information please do not hesitate to contact either of us.

Sincerely,

Representative Tom O'Halleran
Co-Chair

Ms. Diane Vosick
Co-Chair

February 17, 2005

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007

**Re: RESPONSE TO THE PROPOSED RULEMAKING FOR THE ENVIRONMENTAL PORTFOLIO
STANDARD (Docket No. RE-00000C-05-0030)**

Dear Sir/Madam:

Thank you for this opportunity to comment on proposed changes to the Environmental Portfolio Standard (EPS). Attached to these comments are a resolution from the Eastern Arizona Counties Organization (ECO) Board of Directors and a comment letter from Navajo County which we support and adopt by reference as part of our comments.

We appreciate and agree with your efforts to eliminate the EPS sunset date, increase the portfolio percentage requirements and lower the mandatory solar generation percentages. We believe that these changes are a step toward a balanced and effective Standard. In order to strengthen the effort to achieve this balance in a way that provides a significant positive impact to ECO and its member Counties (Apache, Gila, Graham, Greenlee, Navajo), we strongly urge you to consider the following changes and additions to the proposed rule amending the EPS:

- < While biomass power and thermal (heating/cooling) generation uses are tacitly acknowledged, they do not appear to receive either detailed attention or recognition for their importance as part of the EPS. With the extensive problem Arizona faces regarding small diameter trees and hazardous fuels, it is imperative to the well-being of ECO and its member Counties that biomass power and thermal generation are recognized more prominently and directly in the final rule.

**THEREFORE, WE STRONGLY REQUEST THAT THE FINAL RULE RECOGNIZE BIOMASS
POWER AND THERMAL (HEATING/COOLING) GENERATION AS IMPORTANT EXISTING
TECHNOLOGIES UNDER THE RULE.**

- < ECO and its member Counties appreciate the importance of traditional references to, and requirements for, the use of solar power in the existing EPS. Currently, however, there is a rising importance and use of biomass in our member Counties for power and thermal generation, with a subsequent ability to quantify biomass use. Due to its increased importance to ECO and its member Counties for forest restoration and economic recovery activities, it is essential for us that language is included in the new EPS rule requiring companies to generate a percentage (i.e. 10%) of both power and thermal (heating/cooling) from biomass. This would provide a greater assurance to investors that biomass has a recognized importance in Arizona.

**BASED ON THIS COMMENT, WE URGE THAT THE FINAL RULE INCLUDE A PROVISION
REQUIRING THAT IN ORDER TO BE IN COMPLIANCE WITH THE EPS, A PERCENTAGE
(10%?) OF QUALIFYING POWER AND THERMAL GENERATION MUST COME FROM
BIOMASS.**

Thank you for this opportunity to comment. We look forward to a balanced and effective Environmental Portfolio Standard that encourages the restoration of our forests and improves the economic well being of our communities.

Sincerely,

Mark Herrington, Chairman
Board of Directors

Appendix B

Guiding Principles for A New Economy Based on Forest Restoration

Restoration Economy Subcommittee of the Arizona Forest Health Advisory and Oversight Councils

Preamble to the Guiding Principles

Arizona's high country is home to magnificent forests harboring a diversity of biological, cultural, and economic values. Yet many of Arizona's forests—especially Arizona's extensive ponderosa forests—have undergone a dramatic transformation during the past century due to land use, climate, and other factors. These changes have increased insect and disease outbreaks, abnormally severe fires, and adversely affected biological, cultural, and economic values. The unacceptable risk posed by these conditions requires immediate and strategic action, including community protection and ecosystem restoration.

With this urgent need for strategic action comes an opportunity for positive change. It is recognized that there is a need to develop a viable restoration economy to accomplish the goals of community protection and forest restoration. Conversely, we have learned from past years that sustainable forest communities and sustainable wood-based enterprises depend on ecologically sound management of our forests. Therefore, new and existing forest industries need to be developed around the needs, goals and by-products of collaborative ecosystem restoration and community protection.

The Restoration Economy Subcommittee has developed, through collaboration, a zone of agreement for principles to guide the sustainable utilization of community protection and forest restoration by-products.

Guiding Principles for a New Economy Based on Forest Restoration

1. New and existing forest product industries should be developed and enhanced around the needs, goals and by-products of collaborative ecosystem restoration and community protection. This restoration economy can and should provide sustainable economic, environmental and social amenities and benefits to Arizona's rural communities.
2. A viable restoration economy includes tourism, recreation, and other community economic benefits. These amenity based economic benefits, which are tied to wildlife, watershed, scenic, and other values, should be enhanced and developed in association with community protection and forest restoration.
3. A viable restoration economy, like ecosystem restoration, must be collaborative and all-inclusive. Commitment to forging and proceeding within broad zones of agreement will ensure long-term effectiveness.
4. A viable restoration economy requires a reasonable predictability and a reasonable level of risk for business. Given that there is a large amount of material likely to be available as a result of community protection and forest restoration, all parties should work together to plan and develop systems to facilitate the regularity and predictability of material supply.
5. Additional public and private financial incentives should be created to develop and encourage new and existing forest industries that implement community protection and forest restoration.
6. Programs should be established to promote markets and public awareness of Arizona-made forestry and wood products.
7. A viable restoration economy should prioritize investments in local and regional Arizona based forest products industries. This approach should maximize local economic benefits, and improve the long-term stability of industry needed to implement community protection and forest restoration.
8. By-products of community protection and forest restoration will primarily include small diameter trees and woody biomass. Existing and new industry must be encouraged and developed to provide for utilization of these materials.
9. Ecosystem restoration and community protection projects should be designed and implemented using "best value" criteria, with emphasis on ecological values and support for local businesses.
10. Workforce development and training programs should be developed to support a viable restoration economy. To be most effective, these programs should be locally based.
11. *Multi-party monitoring is essential to measure the success of a viable restoration economy. An effective multi-party monitoring process should include social, environmental, and economic facets of community protection and forest restoration. It is essential to utilize an adaptive approach to ensure these programs are most effective for the land.*

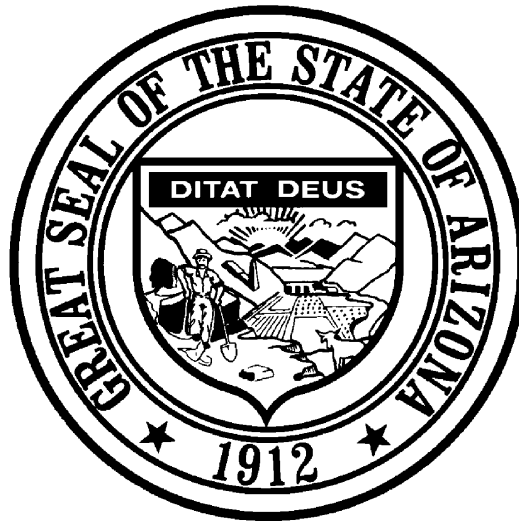
Appendix C

2004 Forest Summit Recommendations

Governor Janet Napolitano's
Second Annual Forest Health and Safety Conference:

"The Next 100 Years"

March 19, 2004



"Empowering Local Communities"

- **EDUCATION AND ACTION (Implementation)**
 - Into the schools systems for both teachers and students
 - Youth groups such as scouts and 4-H
 - Educate legislators, Supervisors, and Community Councils.
 - Use churches
 - Create and implement a community fire plan under authorities of the Healthy Forest Restoration Act.
- **EFFECTIVE USE OF RESOURCES**
 - Community efforts – Sense of community and shared vision for the future.
 - Effective use of volunteer groups.

- Incentives for forest related industry – Town and business profit sharing.
- Quantifying enhanced values for fire resistive properties and communities
- Central clearing house for dispersal of property cleanup materials
- Creative solutions thinking. (Individual/community)
- Provide sliding scale financial assistance to homeowners based on economic need for prevention and fire resistive landscaping.
- **STATUTES AND ENFORCEMENT**
 - Special service district authorization for counties and other local government empowerment.
 - Statutes are essential for those who will not cooperate otherwise.
 - CC&R's subordinated by community, county, and/or state statutes to empower homeowners that want to implement thinning and restoration at the property level.

“Putting the Guiding Principles to Work on the Ground”

1. Funding / Prioritization / Implementation (Speeding up Action)
 - a) Mobilize community groups to leverage sustainable, consistent funding for planning, prioritization, implementation, and monitoring of on-the-ground projects to promote forest ecosystem health as defined in the guiding principles. (1st Priority) (Similar to a recommendation from the “business” break-out session (M. Moore).
2. Education
 - a) Develop public-private partnerships for educational purposes targeted at the full range of stakeholders (property owners, developers, youth, new residents).
3. Monitoring and Information Sharing
 - a) Reconsider the creation of a State office of Forest Ecosystem Health.
 - b) Establish an interagency / local participation and ecological health working group to develop standard ecological health protocols for landscape (FRCC) and project scales.
 - c) Develop an interagency / local to county, state, Federal agency web site with a) clearinghouse / archive for data; b) associated interactive tools; c) a toolbox for community restoration planning, and, educational materials.

“Working Together for Results”

- Education/communications
 - clearinghouse for media background, community wildfire protection plan template, resources & tools
 - help HOAs educate residents and require clean up
- Pass O'Halleran's bill re: forest health and community protection
 - update fire code
 - enforcement of local clean-up codes
- Encourage use of small trees
 - biomass
 - diversity of economy

- Community support
 - green trash bins
 - assist those in need
- Use insurance to encourage residential cleanup

“Sustainable Economic Utilization”

- Biomass incentive packages for business and consumer – small diameter timber utilization
- Market development program
- Business & contract support, especially restoring State budget assistance
- Ensure access to supply at sustainable rates

“Seamless Emergency Response”

- Provide funding to DEMA & State Forester to assist each county & tribe develop public education programs, first responder training and to update wildfire notification & response plans.
- Continue to improve a multi-jurisdictional response to wildland fire including but not limited to the following:
 - integration of State Fire Mutual Aid plan with State Wildfire Response Plan
 - Joint training & intelligence
 - MOUs & IGAs
 - Provide more training opportunities for wildland fire in rural areas the State.